LISBON SCHOOL OF ECONOMICS & MANAGEMENT
UNIVERSIDADE DE LISBOA

MASTER IN
FINANCE

MASTER'S FINAL WORK
PROJECT WORK

STRATEGIC AND FINANCIAL PLANNING OF AX AVIATION

JOÃO HENRIQUE LIMA CARVALHO

OCTOBER 2020

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Abstract

Being a Master`s final project, this paper intends to evaluate the financial and business model attractiveness of a Brazilian start-up specialized in providing support services for private jets owners and crew members. In order to make the assessment of the company, the author performed an industry and market analysis of the environment in which the company is inserted, followed by a strategic plan containing details on how the company is positioned in the market, the services provided, promotion methods and geographic coverage. For the financial assessment, the author forecasted demand, revenues, costs and capital expenditures in order to build forecasted income and cash-flow statements. To assess the company present value the author utilizes the discounted cash-flow (DCF) applied over the forecasted cash-flow statement.

Acknowledgments

I would like first to thank myself for all the hard work put on my Master in Finance course while working a full time job. Secondly, even more important, my amazing wife whom without her nothing of this would be possible. My family for always supporting my crazy ideas and fast decision making. My classmates for supporting each other on difficult times. My professors and supervisors for supporting me during the whole master program. Antonieta for being the best dog one can have and keeping the house happy and balanced in those difficult times.

CONTENTS

1. INTRODUCTION

This paper is a Master's final project for the Master in Finance at ISEG – Lisbon School of Economics & Management. The purpose of this project is to build a non-exhaustive business plan for an existing Brazilian start-up, called AX Aviation, which specializes in providing support services to private airplane owners and crews, for which the author was invited to become one of its partner's.

The author's goal with this paper is to have better supporting data and facts in order to better sustain his decision making process on whether to accept the invitation, or politely opt out.

The paper is structured in 7 main sections, starting from a Literature Review, passing through to the Methodology, Industry and Market Analysis, Strategic Planning, Financial Planning and Valuation, and finalizing with a Conclusion on whether it is an attractive start-up to invest or not.

2. LITERATURE REVIEW

2.1 Introduction

Startups have the potential to achieve exponential growth; however, at the same time, they are also confronted with unforeseen and repeated failures (Slávik, 2019). Slávik (2019) used an experiment analogy by referring to startups as living laboratories that explore an enterprise's emergence and maturation. A startup company is an organization which is learning the craft of its business since it is still in the early stages of its development. This means that startup companies are expected to look for appropriate and reliable business models to help them in their operations. Startups show higher risks compared to large companies with established market share and table profits; therefore, startups need to recognize potentials as well as threats in their chosen sector (Gurel & Sari, 2015). Startups are a culmination of an entrepreneur's thoughts/ideas into a business (Mazzarol et al., 1999). The progress, success, and survival of any startup is dependent on the quality of the business model, the team, and business planning involved. Apart from planning, Miloud et al. (2012) highlight that the valuation of a startup is critical. This is because it governs the motivation and establishes the value of the efforts and resources an entrepreneur has invested into the new venture.

Furthermore, knowing how startup valuation works is important given its relevance in attracting funding to drive the initial success of the organization. However, as stated by Shepherd et al. (2020), there are challenges surrounding the engagement in research on startups. These challenges include the acquisition of sufficient samples for investigation as researchers are expected to identify something before it is created.

In addition, most efforts towards the establishment of new ventures are discontinued before reaching maturity which becomes an additional challenge for researches that are sourcing for samples (Shepherd et al., 2020). Finally, a majority of the traditional measures, including research designs, are likely inapplicable in the early-stages of organizations, and introducing new measures is considered an engagement in high-risk research (Shepherd et al., 2020). The implication is that there is minimal research on startups. Startups are considered a valuable opportunity to engage in research on new-venture creation. In order to gain a comprehensive view on how startups develop and grow into legitimate businesses, there is a need to elucidate how these organizations draw their big picture and long-term strategy. Alongside this strategy, it is also imperative to determine the financial viability of startups. Furthermore, knowing how startup valuation works is critical given its relevance in attracting funding to drive the initial success of the organization. This literature review explores the current understanding and trends in startup strategic planning, financial planning, and valuation.

2.2 Strategic Planning

A strategic plan is the big picture and long-term vision of an organization. For startups, a strategic plan covers an outlook for the next two to three years. On the other hand, for large companies, that are relatively more established, the outlook is around three to five years. A strategic plan is crucial since it is an overarching reflection of the startup, setting the company's identity, goals, market, competitors as well as the approaches required for meeting the organization's objectives (Ampadu, 2018). In other words, strategic planning requires the drafting of a written process for laying out the long-term objectives of a company, the creation of alternative methods for the fulfillment of these aims, the assessment of these methods and result tracking system (Armstrong, 1983).

Strategic planning has also been defined as the formulation, implementation and evaluation of decisions required for the achievement of an organization's objectives, considered as both science and art (Stolze et al., 2014). Stolze et al. (2014) argue that lean startup movement offers strategic planning tools that entrepreneurs can utilize. Lean startup refers to the combination of several methodologies such as lean production or the production practices of Toyota, Agile Software development and customer development. According to Kabeyi (2019), strategic planning is formulating, implementing, and evaluating the decisions required to attain an organizations' goals and objectives. This definition supports the argument provided by Mazdeh et al. (2011) on the importance of planning in management for startups. In his publication, Kabeyi (2019) argues that strategic planning is the way to go for any firm, including startups. The rationale is that strategic organizations can prepare to withstand and overcome any form of competition in the market place.

According to Gurel & Sari (2015), a startup's survival hinges heavily on determining the most crucial strategy for ensuring the organization's ability to grow. According to these authors, startups have different strategies from those of large companies. Startup strategies are geared towards increasing its market share while large company strategies are for increasing profits. Gurel & Sari (2015) conclude that strategic management is therefore especially critical for startups.

Alves (2016) has noted that startup companies fail when they do not define strategic plans especially when developing a new product. The author adds that to enhance the odds of successful commercialization, startups need to determine market-fit as soon as feasible while performing product development that is focused on the customer.

According to a study by Gelderen et al. (2000), business owners engage in strategic planning in order to minimize the degree of environmental uncertainty. The results of the study suggest that strategy and performance are relevant dynamics of success to a business. The authors also claimed that reactive strategy results in poor performance for business owners and that critical point strategy and complete planning lead to high performance of small business startups. Mazdeh et al. (2011) have found that strategic planning is possible for startups and even provided a strategic planning model for startups. They forwarded that strategic planning for startups involves: mission and vision establishment, internal analysis, external analysis and strategic plan, and operational plan finalization. Mazdeh et al. (2011) also emphasized the importance of the vision, microenvironment parameters, competitive advantage, and entrepreneurial traits. Xu (2019) has reported how interaction of the executive and frontline contributes to strategy integration and startups achieve this through three mechanisms. The first one translates into forming an organizational identity that is collectivist. The second relates with managing of functional processes using strategy and planning while keeping focus on the firm core. The third mechanism regards enhancing strategic integration through alignment of incentives under a reward system. These measures, according to the author, allow the maximization of resources and potential towards gaining competitive advantage for the startup.

As stated by Mazdeh et al. (2011), nearly every start-up experiences issues related to financial limitations, managerial problems, a lack of experience, and fierce competition from larger and well-established competitors. Eventually, due to these challenges, most of the businesses fail after a short stint in the market (Mazdeh et al., 2011). Aldrich & Auster (1986) in their study identified a lack of planning as among the primary factors that contribute to the failure of startups. Contrary to the argument posited by Aldrich & Auster (1986) and Mazdeh et al. (2011), Atkinson (2006) indicated that the execution of a strategy is more critical compared to the strategy itself. However, Mazdeh et al. (2011) argued that while

the findings provided by Atkinson (2006) are true, they do reduce the importance of strategic planning for new ventures.

Poor planning was identified as among the primary contributors of failure for startups (*"dwarfs"*) (Aldrich & Auster, 1986); therefore, strategic planning is considered important in ensuring that startups can deal with market competition and that they survive and thrive in the market place. According to Gurel & Sari (2015), for startups, strategic planning may be geared towards increasing the firm's market share as a strategic element also identified by Kabeyi (2019). The increased market share translates to greater competitiveness for the startup with the long-run effect of increased profitability. For Gurel & Sari (2015) and Kabeyi (2019), strategic planning is, therefore, among the most appropriate strategy for any organization and in this context startups to grow in their market place. Mazdeh et al. (2011) in their study established that the success of startups depended on the existing entrepreneurial opportunities, competitive advantages, and entrepreneurial characteristics. Therefore, through strategic planning, start-ups can become more competitive by growing their market share. This can be attained through the recognition and capitalization of existing entrepreneurial opportunities; hence acquire competitive advantages that will ensure they survive and thrive.

2.3 Financial Planning

Financial planning, defined as "as the process of systematic and quantitative forecasting of all cash in and outflows relevant for the exploitation of entrepreneurial opportunities, in order to support financial decisions within the future planning period" (Thomas et al., 2019, p. 219), is an essential element of startup creation. It has been said that money is not everything when planning to finance a nascent business venture because there are many things that must be done but, for the venture to succeed, financial planning and raising capital is crucial. In fact, Bradley (2000) has reported that lack of financial planning can cause small business bankruptcy. The author investigated the primary reasons for the failure of 531 small businesses and found that in, addition to lack of location knowledge, insufficient financial planning during the early stages of startup operation results in startup failure.

Poor financial management has also been mentioned by Karadag (2015) as the major cause of failure of small-medium enterprises. The author does highlight the importance of financial management through financial planning, noting that financial planning has a positive effect on the performance of a business. It has also been suggested that financial planning, alongside other strategies such as strategic fixed-asset management, strategic working capital management and strategic financial control and reporting, are associated with better firm performance.

Indeed, Hechavarria et al. (2015) have demonstrated that capital structure plays a significant role in the attenuation and acceleration of startups during their gestational period. The authors observed that new businesses need financial capital among other requirements for their operation and survival during the venturing process' early stages. Initial financial structures are crucial and could drive the success or failure of startups. For instance, financial planning allows startups to predict when the organization will need to secure external funding to fuel the growth of the firms (Hechavarria et al., 2015).

According to Gansel (2005), financial planning is one of the most difficult obstacles during the planning of a new startup business, but it is also one of the most important steps in the process. Although this concept has been extensively discussed, there is still no universally accepted guideline that matches the startup creation process with financial planning. Gansel (2005) developed a framework for financial planning in startups which involves capital requirements, sales, expenses, investments, and financing to construct the following components: income statement planning, cash flow statement and balance sheet. The creation of a consistent financial plan can be tested for robustness using scenario analysis, sensitivity analysis and simulation (Gansel, 2005).

Thomas et al. (2019) provided five financial elements that can be applied for the formation of a startup or new venture company. These five elements include revenue planning, related expense planning, investment planning, capital requirement planning and financial planning. The financial planning process is comprised by three core components that include income statement planning, cash flow statement planning and balance sheet planning. According to the authors, financial planning acts as a means for working with uncertainties for startups.

Having a business idea and transforming the idea into reality is often exciting for entrepreneurs, and it is the birthplace of a startup. However, a significant number of startups ignore or are blind to the importance of the management of their financials, which in the end hampers their growth. The study by Allinson et al. (2010) established that most entrepreneurs are intuitive, hence make decisions, including financial decisions, based on their gut feelings. Such a decision-making approach places the business at risk of financial failure, and hence the need for financial planning.

Financial planning is critical for startups on various levels. While the study by Borges et al. (2013) established that financial planning does not influence the ability of startups to raise financial resources, other studies have established the contrary. For example, Mason & Stark (2004) in their study considered how investors make decisions regarding funding small companies. They established that business angels place their focus on a firm's finances compared to venture capitalists (Mason & Stark, 2004). However, they highlighted that each type of investor considers their investment fit depending on the financial plans

that the startups have developed. The study implied that startups are required to customize their business plans, including financial plans, to attract funding. Similalrly, Gveroski & Risteska (2017) conducted a study to determine the factors that impact the process of making investment decisions in SMEs. Similar to the earlier findings by Mason & Stark (2004), Gveroski & Risteska (2017) established that financial planning was among the critical consideration for investment, particularly among the small companies. Just like Mason & Stark (2004), Gveroski & Risteska (2017) also recommend engagement in formal planning.

2.4 Startup Valuation

Startup valuation is a big challenge because of the absence of important information traditionally used in the valuation of established companies. Since startups are newly emerging, rapidly growing organizations that are aspiring to occupy a marketplace by creating a business model based on an innovative product or service, they are full of uncertainty. Risks are important considerations due to the high rates of failure of startups due to various reasons. Startups are also known to have short or nonexistent history, zero or small revenues and operating losses, dependence on private equity, illiquid investments, and multiple equity claims, thus making their valuation challenging (Sivitska, 2018). Matschke et al. (2010) describe valuation as a process that involves the determination of the current worth of a company.

Nonetheless, startup valuation is an essential process for both the venture capitalists and the entrepreneurs. For investors, startup valuation is consequential because it decides the percentage of shares they will receive in return for their investments. Startup valuation also drives the profitability of the investor fund and influences the relationship between venture capitalists and fund providers. On the other hand, startup valuation is also important to entrepreneurs since it shapes the motivation and places value to the resources and efforts expended by the entrepreneur on the startup (Miloud et al., 2012).

According to Kotova (2014), startup valuation depends on the three stages of startup development which are: pre-startup stage, startup stage and post-startup stage. Investors require a profitability of 80% and higher at the pre-startup stage. At the startup stage, the expected profitability stands between 50% and 70%. While at the post-startup stage, the profitability required is 25% to 50%. The valuation of a startup is fundamentally based on firm-level profitability, market opportunities, external links, and company resources (Ge et al., 2005). A startup is valued higher if the startup is from a fast-growth and high-product differentiation industry, if the founders have startup experience and good management experience, if the startup is founded by a group of people instead of only just one, and if the startups have external partners (Ge et al., 2005). There are various methods for the valuation of startups. Examples of such methods include: risk factor summation method, Berkus method, scorecard valuation method, book value method,

comparable transaction methods, liquidation value method, first Chicago method, discounted cash flow method and the venture capital method. The most popular of these methods is the venture capital method which is based on the return on investment the investor expects (Akkaya, 2020).

Risk factor summation method bases the valuation on a base value that is adjusted to the effects of several risk factors. Berkus method of valuation is based on the evaluation of five key success factors for startups. Scorecard valuation is based on a weighted average adjusted for an identical startup. Book value valuation is derived from the startup's tangible assets. Comparable transactions valuation is based on key performance indicators of an identical startup. Liquidation value valuation is based on the startup tangible assets' scrap value. First Chicago valuation utilizes the average of three valuation methods (Nasser, 2016). The discounted cash flow method (DCF) is also one of the most commonly used methods of startup valuation. Under DCF, a startup's value is said to depend on free cash flow that the company is expected to create in the future and is distributable to investors. DCF indicates that the startup value is equal to its discounted free cash flows over time at the startup's weighted average cost of capital (Higson & Briginshaw, 2003). Dhochak & Doliya (2020) investigated whether startup valuation is enabled by network, industry, or internal-based theories. The authors reported that strategic variables are useful in the generation of a systematic approach for the measurement of relevant factors for new venture valuation. Thus, they have provided an additional method for the identification and measurement of theory significance in startup valuation.

As they are in their early stages of operation and at the seed stage of development (Jeong et al. 2020), start-ups tend to lack the relevant arithmetics for use in standard valuation methods; such as cash flows, earnings, or revenue, to mention a few. Therefore, experimentation methods tend to be used, and this posses a significant challenge for the business and investors. Baeyens et al. (2006) highlighted that differences in the valuation of a start-up between the entrepreneur and the investor is among the core reasons for disagreement. In their study, they established that startups that lack valuation cannot secure the necessary funds/investments to ensure their growth (Baeyens et al., 2006). For a startup, the valuation of the business is critical for promoting improvements as part of strategic planning and negotiating for funding. Matschke et al. (2010) indicate that valuation provides any firm with the decision value (limit of a party's willingness to concede in a conflict), arbitration value (compromising to promote agreement), and argumentation value (ability to influence the belief of other parties). Therefore, it allows firms to acquire negotiating power (Matschke et al., 2010). As an outcome of such power, startups can attract investments.

However, it is critical to note that the valuation should be current to attract any form of funding. Miloud et al. (2012) and Wasserman (2017) established that previous startup experience significantly

positively impacted on startup valuation. The rationale being as postulated by Hsu (2007) that experienced individuals have better negotiating skills when engaging in discussions. However, Gompers et al. (2009) determined that investors are not eager to pay for previous performance. Therefore, do not value startups based on previous performance, but consider the current value of a firm. The implication here is that current and up to date valuation of a startup is critical in not only creating organizational value as highlighted above, but also ensuring the firm continuously secures investment funding to ensure its growth and success.

2.5 Conclusion

This literature review has provided recent and relevant information on the importance and application of strategic planning and financial planning and how startup valuation plays a role in the development of new ventures. Strategic planning is required in identifying risks and challenges that a startup is going to face and what measures are required to overcome related obstacles. It has been shown here that strategic planning is a way to manage uncertainties in the startup's future and that startups particularly need strategic planning compared to established businesses. A model and mechanisms involved in strategic planning are likewise presented. Regarding financial planning, it has been revealed that this process is crucial for the survival of startups. Financial planning was also found to be crucial in attenuating and accelerating startup development. A framework and required elements for financial planning were also discussed. In terms of startup valuation, it was found that various methods are available but the process itself is particularly challenging. Nevertheless, methods are briefly described including how startup stages and other factors affect valuation. These three topics offer essential information on how startups develop. However, elucidating which factors and scenarios influence the growth of a particular startup might not be as straightforward. Therefore, testing and evaluating the relevant mechanisms involved in the development of startup based on the reviewed literature herein should lead to better understanding of this topic.

3. METHODOLOGY

The purpose of this paper is to analyze how attractive company AX is to invest in, considering that the author was invited to become one of its partners.

This paper will explore three perspectives:

Industry and market analysis, where the author details in which industry the company inserted, how it differs from the common knowledge about the aviation industry, the market size and competitors around the globe. To better assess the potential market size, the author utilized a dataset provided by the Brazilian Civil Aviation Agency (ANAC), which contains the details of every single aircraft that is

registered in Brazil. By leveraging the knowledge of the current owner of AX Aviation, who is a private jet pilot with more than 10 years of experience in this segment, the dataset was treated in order to filter the aircrafts that could be potential customers of AX Aviation., using as main drivers: the class in which the aircraft is registered; the number of engine (s) equipped in the aircrafts; the type of those engine (s); and maximum takeoff weight of the aircraft.

Strategic planning, where, as mentioned by Ampadu (2018), the author will set the startup overarching reflection, by setting the company's identity and developing a non-exhaustive plan that covers topics such as Porter five forces, services provided, pricing, promotion, geographic coverage and competitive advantages.

Financial planning and valuation which is the last perspective and contain detailed demand/revenue forecasting, labor planning, OPEX planning, CAPEX planning, cost of capital assessment, company valuation and sensitivity analysis. The company will be evaluated in a 5-year time horizon by forecasting monthly figures for two main statements: Income Statement and Cash-flow statement. In order to estimate the present value of the company, the author will use the discounted cash-flow (DCF) method by discounting the free cash flow to equity (FCFE), including and excluding perpetuity.

The conclusion of this paper will be based on the three perspectives mentioned above and should provide the author with the necessary insights on whether or not to invest in the company AX Aviation.

4. INDUSTRY AND MARKET ANALYSIS

4.1 Industry branches

The aviation industry can be divided in three main branches, also quoted as segments by Linz (2012), and other less significant branches. The first and most known is the Airlines branch, referenced as passenger segment by Linz (2012), where companies operate regular flights with a predefined schedule and their services are standardized, with minor differences across the different airlines. The second one is the Air Cargo branch, where companies operate regular or on-demand flights with a predefined or on-demand schedule. In general, Airlines and Air Cargo companies have a strong back office structure to support the crews and other operational teams in all stages of a flight. The third, which is the target of this analysis, is the Executive Aviation branch, referenced as business aviation segment by Linz (2012), where companies (not related to the Aviation industry) or individuals owns aircrafts that are used for people transportation in a customized way, hardly following a fixed schedule or having predefined routes.

For this last branch, Executive Aviation, there is rarely any kind of back office structure to support the crews and coordinate with ground operations teams, leaving all the activities related to a flight in the crew hands. Those activities are numerous and can overwhelm the crew, which could result in a loss of focus on what really matters in this business, which is pleasing the aircraft owners with an excellent service at the same time that safety remains a top priority.

4.2 The hidden niche in the Executive Aviation branch

There are many reasons behind owning a private aircraft, such as flexibility, reliability, comfort, security, and safety. Nevertheless, flexibility and reliability are likely the main reason business individuals and large corporations spend millions of dollars annually with this mean of transportation.

In general, owners of private aircrafts do not even want to know what needs to be done behind the curtains to guarantee a comfortable and safe flight. This is where ISP (International Service Providers) come in handy. As the crew members need to focus their attention on specific details and third-party suppliers are hired to deal with other details like the back office structure of the Airlines and Air Cargo companies.

4.3 ISPs and their services

ISPs are an important gear in the Executive Aviation industry. They are the ones responsible for making sure the operation will run smoothly and safely. The absence of a properly filled form can generate fines of up to 10.000 USD. A sanitary requirement may prevent the passenger to disembark on his or her destination, jeopardizing a potential business closure, a client's visit, losing a bid or a juridical deadline, among other unaccountable loses. ISPs are generally the most well-informed actor in an inconstant environment where rules and procedures changes on a weekly basis and keeping up to date with the changes is only possible through the ISPs contact networks as well as their experience, which is nearly impossible to be done by a crew member.

As mentioned above, Airlines and Air Cargo companies have constant flights to the same destinations and once a study regarding the particularities of that operation such as government authorizations, flight rules that differ from the operators country of origin, operational characteristics that pilot must be aware and trained for, is complete, there is little to be updated and changed, and it becomes an easier process. Also, those companies have the advantage of being granted long term authorizations for those operations. Unfortunately, or fortunately in the case of the ISPs, those characteristics are not

applicable for the Executive Aviation and each flight is a completely new study and the all the necessary permission needs to be requested.

Due to the nature of a private operation, a number of tasks must be completed for every flight, and it would be an enormous work load for the crew, whose attention is put at better use focusing on the flight itself, and not the logistics and bureaucracies of it.

Among the many tasks that an ISP can perform, the most common involve:

- Providing navigation, flight planning and weather information.
- Getting permits from government agencies for overflight and landing in foreign countries.
- Security planning airborne and on the ground.
- Acknowledge different flight rules worldwide and assist the crew with contingency procedures, differences from ICAO standards.
- Coordinating with local services.
- In-flight catering.
- Hotels and ground transportation.
- Concierge and special requests.
- Trip cost estimates.
- Sanitary procedures and recommendations.

4.4 Potential market size in Brazil

In order to assess the potential market size for ISP in Brazil this study used data provided by the Brazilian Civil Aviation Agency (ANAC). ANAC owns and maintains the Brazilian Aeronautical Registry, which is a dataset containing the details of every single aircraft registered in the country. This study used the May/2020 dataset, which contains the details of 9,669 aircrafts.

The first step of treating the dataset was to categorize each aircraft in one of 6 business categories, Private, Charter, Crop Dust, Flight School, Airline/Cargo and Other. As Figure 1 shows, 6,719 units were

registered as Private or Charter aircrafts, which is our starting point for deeper analysis as those may be the ones interested in hiring ISP services.

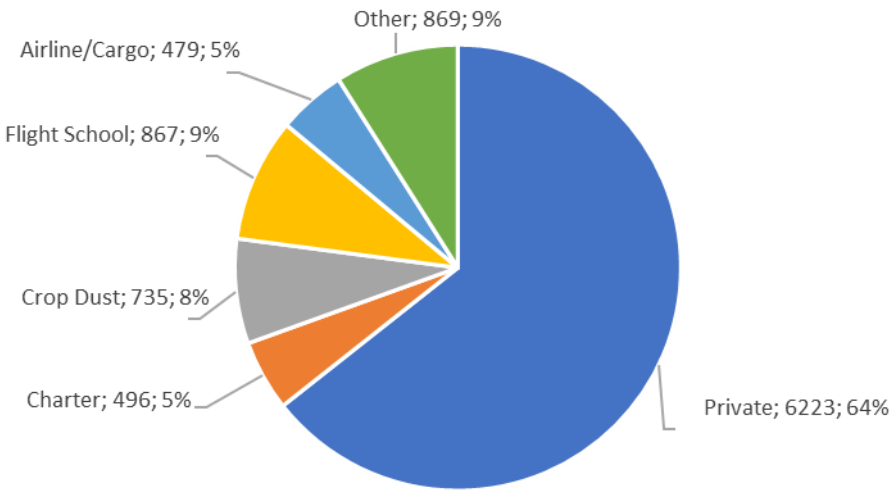

Figure 1 - Breakdown by Business Category

Although the numbers are significant, we must observe that only a fraction of this fleet constitute potential clients for ISP companies since international flights are virtually restricted to some types and size of aircrafts, i.e. a Single Engine Turbo Propelled aircraft or a helicopter will hardly contract an ISP service as they usually don't make international trips, except when they are being delivered from the factory to the final customer.

The next step was to filter the 6,719 aircrafts according to the type and number of engines equipped in each aircraft. In order to simplify the analysis, 9 engine categories were created: Piston Engine, Helicopter, Single-Engine Turbo Propeller, Single-Engine Jet, Glider, Twin-Engine Jet, Three-Engine Jet, Twin-Engine Turbo Propeller and Other Engines.

As shown on Figure 2**Error! Reference source not found.**, 62% of the Private and Charter aircrafts registered in Brazil are equipped with Piston Engines and 14% are helicopters. As already discussed, the focus of ISP is mainly to support crews flying international flights, therefore aircrafts that are Twin-Engine Jets, Three-Engine Jets or Twin-Engine Turbo Propeller are most suitable for these purpose, consequently leaving us with a potential market of 1,182 aircrafts based in Brazil.

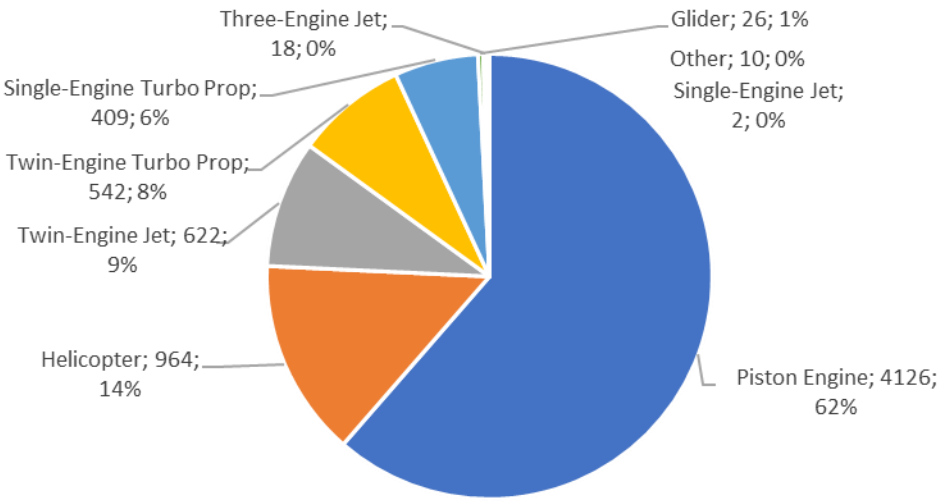

Figure 2 - Breakdown by Engine Type and Number

One last filter is necessary to properly assess the potential market size as, although the 1,182 aircrafts left from the previous step are able to perform international flights, it is not common for smaller aircrafts to do so, even if they are jets. For this reason, one least filter was applied, categorizing each one of the aircrafts based on their Maximum Takeoff Weight (MTOW). An Industry standard was used, categorizing each aircraft into one of the 7 following categories:

- Turbo/Very Light Weight Jet (VLJ) (up to 5,7 ton.)
- Light Jets (5,7 to 9 ton.)
- Mid-Size (9,0 to 17 ton.)
- Super Mid-Size (17 to 19,3 ton.)
- Large Jets (19,3 to 38 ton.)
- Long Range (38 to 54 ton.)
- VIP Airliners (over 54 ton.)

The results are shown on *Figure 3*.

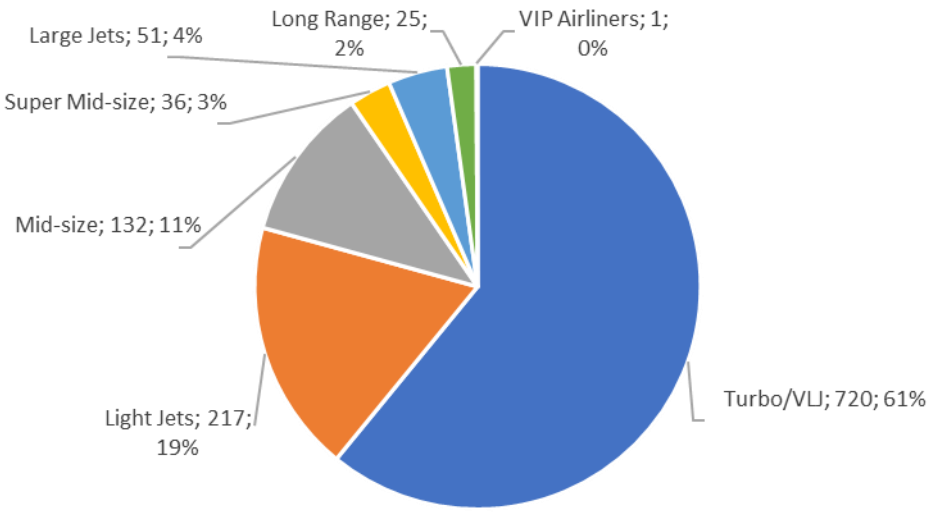

Figure 3 - Breakdown by Maximum Takeoff Weight

Because of economical and operational aspects, Turboprops, VLJ (Very Light Jets) and Light jets, considered small aircrafts, rarely perform international flight. Although not common, the industry has noticed a trend in smaller aircrafts being increasingly used for long distances/international flights due to the COVID-19 pandemic, due to the shortage of airline flights and the fear of being in shared spaced. Since this trend had not yet been confirmed and well established, this study will exclude the small aircrafts when assessing potential market size.

After excluding the three categories mentioned above, the potential market size consists nearly 245 aircrafts as shown on Figure 4.

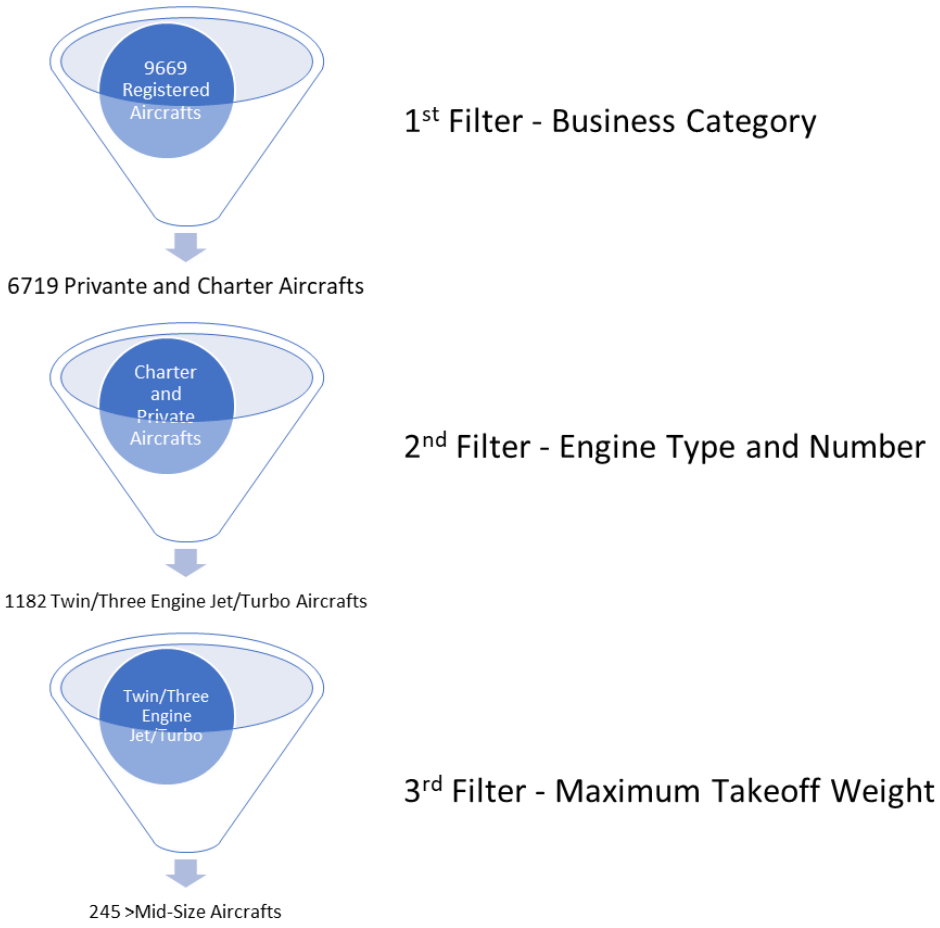

Figure 4 - Filtering Process

4.5 Other ISP operators worldwide

There are not many International Service Providers (ISP) around the world. Part of the reason for the shortage of competitors in the industry relies on the lack of qualified professionals. With very few training options and low interest from workers outside the industry, possibly explained by the small market relative to other industries, the skills required are mostly obtained within the companies, where employees are trained on-site as they begin to deal with the operations, gather knowledge and become self-sufficient in the tasks. The skills obtained in this job is not easily transferable to other sectors of industry, which may also be a turn down for some employees.

The main ISPs contracted by Brazilian operators are:

- ARINC (Shutting its operations from July 31st 2020) (United States)
- COLT International (United States – with office in Brazil)

- Universal Weather (United States)
- World Fuel Services (United States)
- Jetex (Dubai)
- Lider Aviação (Brazil)
- TAM Executiva (Brazil)
- Simplify (Brazil)
- Waypoint (Brazil)
- ABS JET (Czech Republic)

It is also usual for operators to have their crews handle their own operation, especially in flight to/from the United States and South America, in order to reduce their operational costs, which poses a challenge to ISPs to conquer those customers.

5. STRATEGIC PLANNING

5.1 Introduction

This section has the purpose of developing strategic plan for the company, starting from an analysis on how the company is inserted in its competitive environment, passing through the services that are provided and how their pricing is done, marketing, and the competitive advantages the company have due to the proprietary system developed in-house and the vast know-how from years of experience of one of the partners as a private jet pilot.

5.2 Porter Five Forces

Porter Five Forces (Porter, 1980) is a tool developed by Michael Porter and it is used to identify some characteristics of the competitive environment in which a company is inserted. The correct use of this tool enables companies to better develop their strategic plan, taking into consideration 5 different criteria's.

5.2.1 Competitive Rivalry

The approach to potential clients is made through several channels. Most of competitors have a different core business and sell it as an additional service. Some fuel providers will even provide the service as a courtesy, of course the price is imbedded in the fuel price. Líder Aviação and TAM Executiva, in Brazil for example are aircraft resellers and provide hangar services, so they approach the client selling a whole package of services. AX's approach differs from the others by approaching crew members (the ones usually responsible for choosing the service provider), showing the differentials provided by the company, reliability on the quality of service through automation and market experience, since the company is run by fellow international pilots. Although AX presents a different approach and some competitive differentials, the competitive rivalry can be considered strong due to its competitors' size and financial capabilities.

5.2.2 Bargaining Power of Suppliers

AX has developed an exclusive software to manage and coordinate information and the services provided to customers but is dependable on a third services provider for the calculation of flight plans. Due to the complexity of those calculations, which include each individual aircraft's performance, weather, constant changes in airspace structure, AX is so far unable to create such system, therefore relies on the short list of providers. The company is in constant research for new suppliers but has only been able to find one provider that will meet the company's needs. Which is a tight spot for the company and therefore the bargaining power of suppliers can be considered high.

5.2.3 Bargaining Power of Customers

Crew members, responsible for opting to hire the services and choose the provider have relative positive bargaining power. Since the service has large responsibility for the success of the operation, the concern with costs are constantly overtaken by the reliance on the provider. Once stablished a thrusted relationship and constant high-quality services, the price is not the main concern for most operators. Some are very cost oriented, especially those with stronger influence from aircraft owners. The strategy is to develop tools that involve the passengers with AX, and not only the crew, as most providers do. By providing special services to the passenger, AX believes it will create a strong bond with the passengers, and be able to overcome the price battle with competitors. As the customers are not very price sensitive and there aren't many competitors, the bargaining power of customers can be considered moderate.

5.2.4 Threat of Substitutes

As mentioned above, some operators can perform those services on their own, but this tends to divert their attention from the flight with the constant changes in legislation and procedures for international flights. Another threat of course is the approach from competitors to clients, offering their services for lower prices or even free trials. Although there are alternatives to the services provided by AX, the threat of substitutes is low since there isn't any competitor that offer a complete portfolio of services such as the one offered by AX.

5.2.5 Threat of New Entrants

As of most industries, the threat of new entry is imminent. The advantages we see is that most pilots do not have an entrepreneurial mindset, which limits the entry of new players. To this date, information is more widely available to others to learn the aspects of the business and bring their personal experiences. One advantage for AX is the fact that it owns an exclusive system to manage those flights, the only one in the country. A new player would need to start from zero and create a new system to compete, which would take time and experience, on which AX has the advantage of being a first starter. The companies who are in the industry for a longer time have the expertise and financial power to develop their own, so the company must not entirely rely itself on the software. For that reason, the focus is highly directed to the crew's and passenger experience by utilizing AX, by monitoring closely the development of flights, the research around personality, habits and preferences of crew and passengers, to provide a unique, customized treatment. The overall threat of new entrants is low as it is a hidden niche that is mostly known by private jet pilots and aircraft owners, where the first hardly has the interest in being entrepreneurs and the second is already busy with a completely different industry.

5.3 Marketing Mix

5.3.1 Services

An ISP can provide many different services according to the requirements of each customer. The most common services provided by ISPs are:

a. **Flight planning**: An international flight requires a very detailed plan which includes the route plan, timing forecast, flight permissions, documentation, government authorizations, customs clearance and many other items that are required depending on the origin, destination and overflown countries.

b. **Fuel and refueling plan**: As each aircraft has a specific autonomy, which also differs depending on external factors such as weather, load, and equipment onboard, some stops must be executed along the way in order to refuel the airplane and guarantee a safe flight. For this service, AX relies on a third party service that provides a system with a large data-base that performs the required calculations that are later individually analyzed by an experienced AX employee. It is important to note that this system is not financially viable for the crews as individuals as its costs would be diluted by small number of flights. That is where AX comes in the picture, making it financially viable as its cost will be diluted between many customers and flights.
c. **Weather forecast and in-route monitoring**: Weather forecast is critical in the Flight Planning phase and also during the flight, as weather conditions may change extremely fast, requiring quick actions from the crew in order to guarantee a safe and comfortable flight. When a flight coordinated by AX is ongoing, there will always be someone monitoring weather developments on route and communicating with the crew in case some action is required.
d. **Ground services coordination**: A flight is not only composed of the flying part, since a lot of ground activities must be carried out before, during and after the flight. For example, in order to land at some airport someone needs to reserve a slot, hire equipment to provide electricity to the aircraft, empty the waste water compartments, clean the airplane, schedule refueling and many other activities. Although those activities don't seem very complex, they are time consuming, especially in remote airports and in many different languages.
e. **Cost estimation**: Many aircraft owners are cost-oriented and like to understand in advance how much each flight may cost to them. Cost estimation for a flight is complex as some data are not readily available, for example overflight taxes, and AX is capable of doing so by maintaining an extensive data-base for the most common routes and having skilled people researching for customized routes.
f. **Concierge**: Customers in this niche are very demanding and sometimes they don't really care who will take care of their request, as long as they get it done. Any ad-hoc request from the customers will be solved by AX, for example, hotel reservations, special food request, out-of-hours schedule for landing and departing, and many others.
g. **Crew and passengers' transfers**: As it would be expected, passengers in this niche do not take a cab to or from the airport. For this reason, AX also coordinates with local companies the transportation of crew members and passengers to and from the airport.
h. **Crew and passengers' documentation**: AX keeps track of VISAs and passports of crew members and passengers, flagging any potential issues before each flight.

i. **Charter broker**: Although not directly related to the core business, AX also provides quotes for charter flights with different providers, assuring the best price for its final customer. The chartered flight may or may not use the other services provided by AX.

5.3.2 Price

The services provided by AX are customized to the needs of each customer and their complexities depends on a significant amount of factors, such as customer behavior, flight frequency, origin/destination countries, stop-over countries, overflight countries and many other factors.

In an attempt to standardize the pricing process, a fixed cost per service table was created but it wouldn't be fair to the customer and to the company if for example the services for a direct flight from São Paulo-BR to Miami-USA had the same price as the services for a direct flight from São Paulo-BR to Monrovia-Liberia. Although, in the example above, the contracted services are the same and the distance is similar, the complexities between the flights and the effort to support the flights are very different.

In order to correct the distortion caused by a fixed cost per service, an algorithm was created, inside the proprietary system, to adjust the total price, based in the following factors:

a. **Customer complexity**: Each customer has a grade assigned to it based on the previous flights supported by AX. For example, a customer that requests numerous last minute changes to the plan will have a lower grade and consequently a higher adjusted price. The same applies for customers that make peculiar requests, arrives late for departures, and constantly use services that were not part of the initial offer. It is important to note that once a customer accepts the offer, even if it uses more services than the initial request, the price will remain the same, but its profile will be adjusted to reflect a higher adjustment in the next offer.
b. **Flight complexity**: Flights have different complexity related to country regulations, number of stops to refuel, type of aircraft, nationality of the passengers, corruption in the countries involved, availability of suppliers for ground services and many others factors. For example, a flight to a remote destination in Africa will require much more support and effort than a flight to Miami, although they may have the same distance.

The factors described above are captured by the algorithm created inside the proprietary system that is constantly retro-fed by data generated in each service provided.

It may seem odd to the customer that AX is not able to provide a standard table of price when requested, but since the services are tailored for each flight/customer it is the only way to approach this characteristic.

Also, it is common, especially for last minute flights of frequent customers, that the service is provided without any kind of price agreed between both parties before the service execution. In this case, the invoice is later sent to the customer and if there is any kind of disagreement, AX provides more details to help the customer better understand the cost of the service. As a last resource, AX accepts the customer claim and charges a lower price in order to keep a good relationship with it. Off course, in this case, AX will monitor how frequent those claims happens and refuse service without an accepted offer if it is too frequent.

5.3.3 Promotion

As shown in the Industry Analysis section of this paper, the potential market size is restricted to nearly 245 aircrafts in Brazil which is a positive factor in terms on how to reach them.

So far, AX has acquired new customers through different channels, such as:

a. **Referral from existing customers**: Just like the number of aircrafts is relatively small, the number of crew members and aircraft owners are also small and has been an important channel for attracting new customers. A well provided service can become a new deal just because one pilot mentioned the service to another pilot in the hangar where the plane is maintained.
b. **Free reports**: Some simple reports are provided in social media groups for private/charter pilots and mail lists. Those reports usually contain useful information regarding changes in airports or closures of airways for example, information that is easily available for any crew member but it is helpful to receive instead of searching for it. This strategy also has proven to be successful as it reaches many potential customers without almost any cost.
c. **Free of charge services**: Whenever the potential customer seems to be in doubt if the service is essential, or when AX thinks the customer may be strategic to the company plan, it is offered a free of charge service. This strategy helps the customer to realize the value added in hiring AX.
d. **Individual approach**: As the market size is very limited, it is not impossible to reach out to each individual crew or aircraft owner. This strategy has been used a couple times so far and proven to be successful. In order to expand this strategy, a team of account managers will need to be created and trained.

Frequent customers can benefit of discounts according to the number of flights that were supported by AX in previous 12 months. The discount applied is disclosed in each offer in an attempt to encourage the customer to be loyal to AX, hiring its services for as many as possible flights.

5.3.4 Geographic Coverage

Although AX is based in Belo Horizonte in the state of Minas Gerais – Brazil, there is no limitation in terms of geographic coverage. Virtually, AX could serve any customer based in any place around the globe, but at a first a moment, AX will focus on Brazilian customers and will be opened to provide services to any customer that reach out to the company, independently of where they are based.

5.4 Competitive Advantages

As AX is inserted in an open market with almost no barrier to new competitors, it is important that AX differentiates itself from its competitors and stablish a very good reputation among its customers.

The main contributor to achieve this differentiation is the proprietary system developed by AX in the previous two years. This system is the only one running in Brazil and AX is the single user of it. Any competitor that decides to develop a similar system will be, at least, two years behind AX and will probably not count with the expertise from a well experienced private pilot.

On top of it, AX's board is composed by professional that have experience of over 10 years in the segment of private/chart flights. Those professionals are pilots with an entrepreneurship mindset that lived all the problems that AX aim to solve and have a close relation with many potential customers.

AX's strategy is to involve passengers and crew, and perform tasks that go beyond the minimum required for the flight to happen, such as extra-flight amenities, working as some sort of concierge for both passengers and crew which is not currently offered by any other ISP in Brazil

6. FINANCIAL PLANNING AND VALUATION

6.1 Introduction

This section of the paper covers the Financial Planning and the company's valuation for a 5 year's horizon by using the discounted cash flow method. It will cover topics like demand and revenues forecast, labor planning, operational and capital expenditures, taxation, cost of capital and finally the company valuation.

6.2 Demand and revenue forecast

6.2.1 Demand Forecast

Our demand and revenue forecast starts with an assumption/goal of conquering 20% of the potential market, which is translated in having 49 customers in its portfolio by end of 2025. Note that this assumption is conservative for two reasons: i) Market growth is not being considered in this estimation, but we rather extrapolate this assumption in the sensitivity analysis; ii) Spot customers are not considered in this estimation.

Another step is to estimate the average number of flights per customer per month, which should be cyclical with a higher number of monthly flights during school holidays months in Brazil, which are July, December and January. Also, there are some specific holidays like Carnival and Easter that must be taken in consideration.

Projected number of customer and flights by month is available in Appendix I .

6.2.2 Revenues

The estimated revenue is based on the assumption that, on average, each customer will subscribe for a package that costs USD 1,000.00 for each flight serviced by AX Aviation. Of course this assumption is not a rule as some customers may hire a smaller package and others a bigger package of services. Also note that all the services provided by AX Aviation are billed in dollars.

Another assumption used for the revenue estimation is that the average price generated by the algorithm always converts to the average price mentioned above.

6.3 Labor planning

In order to properly run the company, two main teams are required, being the first one a sales team, composed by experienced account managers, and the second one a flight execution team composed of operational associates that are responsible to execute all the tasks required to get the service executed.

Support functions such as HR and Finance are assumed to be held by the partners, avoiding extra costs at the beginning of the company's operation and assuring full controllership over the financials.

Support teams such as payroll, legal, IT and accounting will also be required but will be outsourced through other start-ups that are specialized in providing this kind of services to small companies and other start-ups.

Each team estimated headcount is based on a specific ratio. For the sales team, the ratio is based on the number of customers per account manager and for the flight execution the ratio is based on the number of flights per operational associates. In both cases it was considered that investments in technology and automation will drive improvements on those ratios, requiring less employees to execute the services.

Labor planning and costs associated are available in Appendix II.

6.4 Operational expenditures (OPEX)

Due to its operation nature and the fact that the company is based in Brazil, the operational expenditures are both in US Dollars (USD) and Brazilian Reais (BRL). Since revenues are billed only in USD, the expenses in BRL are converted to USD using the average daily FX rate obtained on the Brazilian Central Bank website for the period from January 1st, 2020 to October 1st, 2020, which is R$ 5.0819 / $ 1.00.

The OPEX planning is done in three main groups: 1. Fixed Costs, which are costs that are not expected to change in a monthly basis, 2. Semi-Fixed Costs, which are expected to change in a monthly basis but with very small variance month over month and 3. Variable Costs which are directly related to the number of flights serviced.

The yearly estimated OPEX is available in Appendix III

6.5 Taxation

Brazil has a very complex taxation environment where three taxation schemes are available for companies based in Brazil. One of the schemes available is called Simples Nacional (*National Simple*) that is available for small and medium enterprises and aims to simplify taxation by having a unique tax that is calculated over the company revenue – See Appendix IV for details.

One important impact of this tax scheme is that non-cash expenses, such as depreciation and amortization, doesn't produce any impact on payable taxes since taxes are calculated based on revenue. Debt issuance to finance operations or capital expenditures also don't produce any tax-shield due to the same reason.

6.6 Capital expenditure (CAPEX)

AX Aviation is an asset-light company that does not plan to hold any tangible assets in the near future. The existing investment plan is fully dedicated to develop and improve software and systems to enable automation and scalability without growing the headcount. This strategy is key to differentiating AX

Aviation from the competitors, lowering its cost of providing an outstanding service and therefore attracting more customers in the future which may constitute a barrier to new entrants as they will not be able to price match the services provided by AX Aviation.

The company have an investment plan that comes strong in 2021, with an $ 11,000.00 investments to develop the 2nd generation of systems and software, followed by smaller investments at the beginning of each year.

2021	2022	2023	2024	2025
$(11,000)	$ (1,000)	$ (2,000)	$ (3,000)	$ (5,000)

Figure 5 - Planned investment by year

6.7 Cost of capital, Cost of equity and Cost of Debt

In order to calculate the Weighted Average Cost of Capital (WACC) three data points are required: cost of equity, cost of debt and Debit/Equity ratio. As already mentioned on the Taxation section, since debt doesn't produce any tax-shield the tax rate will be excluded from the WACC calculation, making the WACC just a weighted average of Cost of Equity and Cost of Debt.

Cost of Equity: In order to assess the cost of equity, the CAPM model was utilized. Beta and Country Risk Premium were obtained from Damodaran A. (2020), where the beta is an average from the unlevered betas of two industries, Aerospace and Air Transportation. For the risk-free rate a Brazil 10Y bond was utilized as reference.

$$Ke = 7.69\% + 0.845(13.19\% - 7.69\%) = 12.34\%$$

Cost of Debt: Debt without collateral is something very expensive in Brazil, with interest rates currently ranging from 11% to 20% according to an article published by Exame Magazine in March 2020. Although issuing debt is not part of the plan for the next 5 years, a quote was requested to Santander for a loan without any collateral. The bank offered a five years' loan of R$ 60,000.00 at an effective rate of 18%.

WACC: Since there is no plan to have any debt in the time horizon for which the financial forecast is built, the WACC will be equal to cost of equity, which is 12.34%.

6.8 Financial Forecast, Valuation and Sensitivity analysis

Financial forecasting, valuation and sensitivity analysis are the last steps of this project and will allow a proper assessment on whether the company is financially viable or not.

6.8.1 Financial Forecast

The financial forecast is composed of two pieces, a forecasted Income Statement and a forecasted Cash-Flow statement, both built in a monthly view but represented on Figure 6 by year.

Income Statement	2021	2022	2023	2024	2025
(=) Revenue	**$ 68,970**	**$ 140,330**	**$ 216,170**	**$ 292,010**	**$ 359,100**
(-) Fixed Costs	$ (11,523)	$ (11,638)	$ (11,753)	$ (11,868)	$ (11,984)
(-) Semi-Fixed Costs	$ (32,526)	$ (75,464)	$ (99,396)	$ (128,660)	$ (133,268)
(-) Variable Costs	$ (6,897)	$ (14,033)	$ (21,617)	$ (29,201)	$ (35,910)
(-) Total Costs	**$ (50,945)**	**$ (101,135)**	**$ (132,766)**	**$ (169,730)**	**$ (181,161)**
(=) EBITDA	**$ 18,025**	**$ 39,195**	**$ 83,404**	**$ 122,280**	**$ 177,939**
(-) Depreciation					
(-) Amortization	$ (1,642)	$ (2,400)	$ (2,800)	$ (3,400)	$ (4,400)
(=) EBIT	**$ 16,383**	**$ 36,795**	**$ 80,604**	**$ 118,880**	**$ 173,539**
(-) Interest Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
(=) EBT	**$ 16,383**	**$ 36,795**	**$ 80,604**	**$ 118,880**	**$ 173,539**
Tax (%)	*7%*	*10%*	*12%*	*13%*	*14%*
(-) Tax	$ (4,839)	$ (14,067)	$ (25,898)	$ (38,544)	$ (49,677)
(=) Net Income	**$ 11,544**	**$ 22,728**	**$ 54,706**	**$ 80,336**	**$ 123,862**

Cash-Flow Statement	2021	2022	2023	2024	2025
(=) Net Income	**$ 11,544**	**$ 22,728**	**$ 54,706**	**$ 80,336**	**$ 123,862**
(+) Depreciation and Amortization	$ 1,642	$ 2,400	$ 2,800	$ 3,400	$ 4,400
(+) Interest Expense	$ -	$ -	$ -	$ -	$ -
(-) Capex	$ (11,000)	$ (1,000)	$ (2,000)	$ (3,000)	$ (5,000)
FCFF	**$ 2,185**	**$ 24,128**	**$ 55,506**	**$ 80,736**	**$ 123,262**
(-) Interest Expense	$ -	$ -	$ -	$ -	$ -
(+/-) Issuance (repayment) of debt)	$ -	$ -	$ -	$ -	$ -
FCFE	**$ 2,185**	**$ 24,128**	**$ 55,506**	**$ 80,736**	**$ 123,262**

Figure 6 - Income and Cash-flow statements

6.8.2 Valuation

To evaluate the company and its attractiveness, the Discounted Cash Flow (DCF) method was utilized having as outputs the Net Present Value (NPV) and Internal Rate of Return (IRR). Two different NPVs are calculated in this stage, one for a 5-year time horizon and another one including perpetuity with 2% growth rate assumption.

As already mentioned before, since having debt issued is not part of the plan and also there is no tax-shield from issuing debt due to the nature of the tax scheme in which the company falls, the free cash-flow will be discounted at a rate equals to the cost of equity, which is 12.34%. The results from the DCF method are shown in

NPV @ 12.34% - 5 Years	$189,202
IRR - 5 Years	20.26%
NPV @ 12.34 % - Perpetuity	$862,600
IRR Perpetuity	-

Figure 7 - NPV and IRR metric from the DCF method

6.8.3 Sensitivity Analysis

A revenue sensitivity analysis was developed to assess how NPV and IRR behave with isolated changes in the monthly revenue. The breakeven point to have a NPV of zero is 70.31% of the base case revenue, as shown in Figure 8.

% of the base case revenue	NPV @ 12.34 % - 5 Years
50%	($130,705)
60%	($66,174)
70%	($2,002)
70.31%	($0)
80%	$61,901
90%	$125,617
100%	$189,202
110%	$252,323
120%	$314,891
130%	$377,078
140%	$438,947
150%	$500,496

Figure 8 - Revenue sensitivity analysis

7. CONCLUSION

The development of this paper allowed the author to have a better comprehension of the industry and market in which the company is inserted and how big it is at a country level. As well, while working on the strategic planning section, the author was able to dive deep on the company's details, the services provided, its competitive advantages and others factors extremely relevant to the decision making process. To finalize, a detailed financial plan confirmed that the company is financially viable by providing a NPV of $189,202 and IRR of 20.26% in a five-year time horizon.

This author strongly believes in the company's business model and is confident that investing in technology and automation is key to guarantee the company's survival in a world where labor costs are raising every year.

As next steps, this author recognizes that some additional analysis is still required in other areas of the business, and plans to implement improvements onto the financial model, by evaluating how interesting it would be to include the company in a different tax scheme in order to benefit from non-cash expenses and debt, although debt without collateral in Brazil is not attractive at this moment in time. Another improvement, already within the author's radar is the upgrade of the price model, which may need to be more transparent to the customers and will improve forecasting accuracy.

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I. APPENDIX I

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
All Years	1	0.7	0.7	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	1

Figure 9 - Number of flights per month per customer assumption

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
2021	5	6	6	7	8	9	9	10	11	11	12	13
2022	14	14	15	16	17	18	18	19	20	21	22	22
2023	23	24	25	26	26	27	28	29	30	30	31	32
2024	33	34	34	35	36	37	38	38	39	40	41	42
2025	42	43	43	44	45	45	46	47	47	48	48	49

Figure 10 - Number of expected customers

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
2021	5	4	4	4	4	4	9	5	5	6	6	13
2022	14	10	11	8	8	9	18	10	10	10	11	22
2023	23	17	17	13	13	14	28	14	15	15	16	32
2024	33	23	24	18	18	18	38	19	20	20	20	42
2025	42	30	30	22	22	23	46	23	24	24	24	49

Figure 11 - Number of expected flights

II. APPENDIX II

7.3 Labor Planning	2021	2022	2023	2024	2025
Sales Team					
Ratio: Customer / Account manager headcount	10	10	11	11	13
Account manager headcount	1	2	2	3	3
Flight Execution Team					
Ratio: Flights / Ops headcount	4	4	5	5	6
Ops headcount	4	6	7	9	9
Adjusted Ops headcount *	3	4	5	6	9
Support Team					
Support Headcount	0	1	1	1	1
Total Headcount	4	7	8	10	13
Account Manager Team Cost	$ 5,782	$ 21,681	$ 34,690	$ 50,590	$ 52,035
Flight Execution Team Cost	$ 22,356	$ 34,775	$ 43,055	$ 54,647	$ 57,131
Support Team Cost	$ -	$ 12,287	$ 13,404	$ 13,404	$ 13,404
Total labor cost	**$ 28,137**	**$ 68,744**	**$ 91,150**	**$ 118,641**	**$ 122,571**

*Ops headcount had to be adjusted to avoid negative variances month over month due to reduced number of flights in relation to the previous month, as terminating employees' contracts is expensive and should be avoided at all costs.

Figure 12 - Expected headcount at the end of each year

Account	Ops Associate	Account Manager	Support Associate
Base salary	BRL 2,000.00	BRL 4,000.00	BRL 3,000.00
Transport benefit	BRL 440.00	BRL 440.00	BRL 440.00
Transport discount	BRL (120.00)	BRL (240.00)	BRL (180.00)
Lunch Voucher	BRL 330.00	BRL 330.00	BRL 330.00
Health Insurance	BRL 300.00	BRL 400.00	BRL 300.00
Other Benefits	BRL 200.00	BRL 300.00	BRL 200.00
13th salary provision	BRL 166.67	BRL 333.33	BRL 250.00
Vacation Provision	BRL 166.67	BRL 333.33	BRL 250.00
Vacation additional provision	BRL 55.56	BRL 111.11	BRL 83.33
Pension Scheme (FGTS)	BRL 160.00	BRL 320.00	BRL 240.00
Pension Scheme (FGTS) over 13th salary and Vacation 1/3 Provisi	BRL 31.11	BRL 62.22	BRL 46.67
Social Security	BRL 180.00	BRL 440.00	BRL 330.00
Social Security over over 13th salary and Vacation 1/3 Provision	BRL 77.78	BRL 155.56	BRL 116.67
Legal Provision	BRL 219.99	BRL 360.01	BRL 270.00
Total monthly cost	**BRL 4,207.78**	**BRL 7,345.56**	**BRL 5,676.67**

Figure 13 - Monthly cost per headcount type

III. APPENDIX III

7.4 OPEX	2021	2022	2023	2024	2025
Fixed Cost	**$ 11,523**	**$ 11,638**	**$ 11,753**	**$ 11,868**	**$ 11,984**
Rent	$ 4,723	$ 4,770	$ 4,817	$ 4,864	$ 4,912
Servers	$ 1,800	$ 1,818	$ 1,836	$ 1,854	$ 1,872
3P Services billed per month with long term contract	$ 5,000	$ 5,050	$ 5,100	$ 5,150	$ 5,200
Semi-Fixed Cost	**$ 32,526**	**$ 75,464**	**$ 99,396**	**$ 128,660**	**$ 133,268**
Payroll services	$ 610	$ 1,338	$ 1,732	$ 2,224	$ 2,302
Legal Services	$ 69	$ 140	$ 216	$ 292	$ 359
IT Services	$ 69	$ 140	$ 216	$ 292	$ 359
Accounting Services	$ 345	$ 702	$ 1,081	$ 1,460	$ 1,796
Utilities (Water, Gas, Electricity)	$ 1,181	$ 1,192	$ 1,204	$ 1,216	$ 1,228
Labour	$ 28,137	$ 68,744	$ 91,150	$ 118,641	$ 122,571
Equipment leasing (Computers)	$ 915	$ 2,007	$ 2,597	$ 3,335	$ 3,453
3P Services billed per month with long no term contract	$ 1,200	$ 1,200	$ 1,200	$ 1,200	$ 1,200
Variable Cost	**$ 6,897**	**$ 14,033**	**$ 21,617**	**$ 29,201**	**$ 35,910**
3P Services billed per use	$ 6,897	$ 14,033	$ 21,617	$ 29,201	$ 35,910
Total Cost	**$ 50,945**	**$ 101,135**	**$ 132,766**	**$ 169,730**	**$ 181,161**

Figure 14 - Yearly estimated OPEX

IV. APPENDIX IV

ANEXO III

Alíquotas e Partilha do Simples Nacional - Receitas de locação de bens móveis e de prestação de serviços descritos no inciso III do § 1º do art. 25, e serviços descritos no inciso V quando o fator "r" for igual ou superior a 28%

Receita Bruta em 12 Meses (em R$)		Alíquota Nominal	Valor a Deduzir (em R$)
1ª Faixa	Até 180.000,00	6,00%	–
2ª Faixa	De 180.000,01 a 360.000,00	11,20%	9.360,00
3ª Faixa	De 360.000,01 a 720.000,00	13,50%	17.640,00
4ª Faixa	De 720.000,01 a 1.800.000,00	16,00%	35.640,00
5ª Faixa	De 1.800.000,01 a 3.600.000,00	21,00%	125.640,00
6ª Faixa	De 3.600.000,01 a 4.800.000,00	33,00%	648.000,00

Faixas	Percentual de Repartição dos Tributos					
	IRPJ	CSLL	Cofins	PIS/Pasep	CPP	ISS (*)
1ª Faixa	4,00%	3,50%	12,82%	2,78%	43,40%	33,50%
2ª Faixa	4,00%	3,50%	14,05%	3,05%	43,40%	32,00%
3ª Faixa	4,00%	3,50%	13,64%	2,96%	43,40%	32,50%
4ª Faixa	4,00%	3,50%	13,64%	2,96%	43,40%	32,50%
5ª Faixa	4,00%	3,50%	12,82%	2,78%	43,40%	33,50% (*)
6ª Faixa	35,00%	15,00%	16,03%	3,47%	30,50%	–

(*) Quando o percentual efetivo do ISS for superior a 5%, o resultado limitar-se-á a 5%, e a diferença será transferida para os tributos federais, de forma proporcional aos percentuais abaixo. Os percentuais redistribuídos serão acrescentados aos percentuais efetivos de cada tributo federal da respectiva faixa.

Quando o valor do RBT12 for superior ao limite da 5ª faixa, para a parcela que não exceder o sublimite, o percentual efetivo do ISS será calculado conforme segue:

{[(RBT12 x 21%) – R$ 125.640,00]/RBT12} x 33,5%.

Esse percentual também ficará limitado a 5%, e eventual diferença será redistribuída para os tributos federais na forma acima prevista, de acordo com os seguintes percentuais:

Redistribuição do ISS excedente	IRPJ	CSLL	COFINS	PIS/PASEP	CPP	TOTAL
	6,02%	5,26%	19,28%	4,18%	65,26%	100%

Figure 15 - Anexo III - Simples Nacional